Exceptions Solutions

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Vector out-of-range error (unhandled)

- Write a program which executes the following code

```
vector<int> v;
cout << v[2] << endl;
```

- Modify the vector element access as follows

```
cout << v.at(2) << endl;
```

- Explain your observations
  - The first statement results in undefined behaviour. The program may crash or behave unusually
  - The second statement causes an exception to be thrown. As there is no handler for the exception, the program will terminate immediately

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Vector out-of-range error (handled)

- Modify your program so that the exception thrown by at() is caught and handled suitably

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throw

- Write a program which performs the following element access

```
cout << v[2] << endl;
```

- Before performing the access, the size of the vector is checked. If the access cannot be safely performed, an exception is thrown
- Provide a suitable handler for the thrown exception

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